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09/277,298	03/26/1999	GEORGE E. CARTER	99P7519US	3318

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SIEMENS CORPORATION  
INTELLECTUAL PROPERTY DEPARTMENT  
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ISELIN, NJ 08830

EXAMINER
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ARANI, TAGHI T

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 01/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/277,298

Applicant(s)

CARTER, GEORGE E.

Examiner

Taghi T. Arani

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-11, 13, 14 and 16-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 14 and 16-31 is/are allowed.
- 6) ☒ Claim(s) 1-11, 32-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Claims 1-11, 13-14, 16-35 were pending for examination.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the first telephony device" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the first telephony device" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Dependent claim 2-7, 9-10 are also rejected by virtue of their dependencies.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11, 32-35, are rejected under 35 U.S.C. 103(e) as being unpatentable over Knappe et al., US pat. 6,603,774 filed Oct. 1998 and further in view of Kavsan, US Pat. No. 6,412,069, filed Sep. 1998 (cited in the previous office actions).

As per claims 1-3, 6, 8-11, 32-35, Knappe et al. is directed to a packet telephony applications wherein voice packets are redirected to a codec proxy system which allow non-standard or feature specific packet voice endpoints (i.e. telephony clients with different communication stacks or codecs) to interoperate in a standard-based network, see abstract.

Knappe telephony clients are connected to packet networks through respective gateways, see col. 2, lines 40-61, see also Fig. 1, numeral elements 16 and 20.

Knappe's codec proxy system coupled to the packet network and is user for setting up calls between first telephony client (i.e. system A) and a second telephony system (i.e. system B), see col. 2, lines 62 through col. 3, line 5. Knappe's codec proxy includes a processor programmed to perform the proxy services.

Knappe further teaches that the gateways can be VoIP telephones or personal computers that include a digital signal processor and software for recording audio signals into audio packets. Knappe's codec proxy system (Fig. 1 numeral element 24) is coupled to the packet network and is used for setting up calls between telephony systems A and B (with different formatting features or codecs), see col. 2, line 62 through col. 3 line 6.

Knappe codec proxy system comprises a capability exchange broker and a packet transmitting and rebuffering circuit which can spoof the two telephony systems to provide a capability exchange proxy to determine codec choices for the first and second telephony systems A and B and generates configuration and control information that identifies the necessary transcoding required between two telephony systems, see col. 3, line 66 through col. 4, line 50, see also Fig. 2, numeral elements 24, 33, 34, 36,38.

Knappe teaches encoder and decoders used for sending packets from telephony system A and to telephony system B. Sound devices and the corresponding drivers interfacing the sound devices are inherent in Knappe's codec proxy and the telephony system codec.

That is to say, Knappe's codec proxy broker is acting as both a formatting module and an interpreting module .

Knappe fails to teach "*inserting a security algorithm within the communication path between first telephony client and a sound device on the first computer, the security algorithm performing cryptographic operations on audio data transmitted in at least one direction between the first telephony client and the sound device.*", limited by **claims 1, 8, and 11**.

However, Kavsan is directed to a cryptographic service software which is compatible and communicates with a standard operating system computer. Kavsan's cryptographic service software is situated in kernel space (**recited in claims 3, 6 and 10**) of the operating system, see col. 2, lines 50-67.

Kavsan further teaches that the cryptographic service software is capable of encrypting hard drive data and IP packet at the driver level of the personal computer.

Kavsan's cryptographic service software allows to encrypt signals at the driver level, such as at the Ethernet port or at the modem port, video card or disk drive, etc., see col. 3, lines 17-29.

Kavsan discloses that the cryptographic service software at application space and the kernel space communicate through corresponding interfaces for encrypting and

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decrypting signals, see col. 3, lines 30-52. The teaching of Kavsan clearly suggests encrypting audio data received from the sound device (at the drive level) and providing the encrypted data to the cryptographic software situated at the application space and decrypting signals received from the application space at the kernel space (**recited in claims 32-35**).

That is, the Kavsan's cryptographic service software is independent of higher-level application programs (**recited in claims 2 and 9**).

It would have been obvious to one ordinary skill in the art to employ cryptographic service software of Kavsan in Knappe's method of voice packets in telephony application to provide encryption /decryption to telephony clients to conduct encrypted communication at the driver level of the client computer, because application level cryptographic services such as CryptoAPI<sup>TM</sup>) would not work at the driver level where IP packets need to be encrypted, see col. 1, lines 47-61.

**Claims 4, 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Knappe et al and Kavsan as applied to claims 1-3 above, and further in view of Crick et al, US. Pat. No. 5,675,793 issued Oct. 1997 (cited in the previous office actions).

**As per claim 4**, Kavsan is silent on inserting the security algorithm between the I/O supervisor and a sound driver.

However, Crick discloses a computer system with a software system having a layered architecture, see col. 2, lines 58-67.

In Crick's computer system, computer programs in the higher layers request services of the computer programs in the lower layers., see col. 3, lines 4-16.

In doing so, an I/O supervisor passes the request to a chain of device drivers (such as sound class drivers) by invoking the component device drivers and the requested data is finally passed to the application program requesting the service, see col. 3, lines 17-44.

Crick further discloses that component device drivers may in between encrypt and decrypt (i.e. insert a security mechanism) the requested data, see col. 3, lines 31-33.

It would have been obvious to one ordinary skill in the art to employ the layered software architecture of Crick into that of Kavsan to be able to allocate and deal locate the computer memory in an efficient manner, because memory request by the operating system (i.e. application layer) is time consuming and decreases the efficiency of the computer system, see col. 1, lines 34-45.

**As per claims 5**, Kavsan teaches that the cryptographic service module at the kernel space includes a library of encryption algorithms and the like, see col. 3, lines 39-52. Kavsan is silent on selecting an algorithm from a group consisting of an IDEA, a DES, a GOST, an RC5, and a SEAL algorithm.

The examiner asserts that DES, IDEA, GOST, RC5 and SEAL algorithms are industry standard block cipher algorithms used in various applications where a balance on processing speed and the security level is required.

It would have been obvious to one ordinary skill in the art to adapt the Kavsan's library of encryption algorithms to select one of DES, IDEA, GOST, RC5 and the SEAL algorithm which most suits the security level and the processing speed required.

**As per claim 7**, Kavsan 's cryptographic service software is compatible and communicates with a standard operating system computer. Kavsan's cryptographic service software is situated in kernel space of the operating system, see col. 2, lines 50-67.

Kavsan further teaches that the cryptographic service software is capable of encrypting hard drive data and IP packet at the driver level of the personal computer. That is, the Kavsan's cryptographic service software is independent of higher level application programs (i.e. telephony clients) .

It would have been obvious to one of ordinary skill in the art to employ a generic layer cryptographic service taught by Kavsan to be able to easily replace or update the algorithms when algorithms and/or the rules of cryptography change, see col. 1, lines 20-41 (Kavsan).

#### **Examiner's Statement of Reasons for Allowance**

Claims 13-14, 16-31 are allowed over prior art.

The following is an examiner's statement of reasons for the indication of allowable claimed subject matter.

Prior art of record, Knappe teaches a codec proxy system which allow non-standard or feature specific packet voice endpoints (i.e. telephony clients with different communication stacks or codecs) to interoperate in a standard-based network.

Knappe does not teach inserting an encryption algorithm within a communication path between a first telephony client and a second telephony client.



Kavsan teaches such encryption algorithm wherein encryption and decryption are performed at the kernel space independent of application space.

Kavsan does not teach an encryption algorithm between I/O supervisor and device driver.

Crick teaches a software layered architecture wherein memory allocation and deallocation of the computer system memory is done efficiently through an I/O supervisor.

None of the prior art of record, either taken by itself or in any combination, would have anticipated or made obvious over formatting audio signals after encryption and interpreting the signals before decryption, wherein encryption is independent of both formatting and telephony clients. The subject matter regarded as allowable is found by the examiner in independent claims 13, 17 18, 19,20, 21, 29, 30, 31.

Dependent claims 14, 16, 22-28 are also allowed over prior art by virtue of their dependencies.

***Action is Final***

**THIS ACTION IS FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Conclusion***

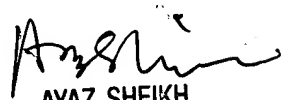
Any inquiry concerning this communication or earlier communications from examiner should be directed to Taghi Arani, whose telephone number is (703) 305-4274. The examiner can normally be reached Monday through Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh, can be reached at (703) 305-9648. The Fax numbers for the organization where this application is assigned is:

(703) 872-9306

Taghi Arani

Patent Examiner

  
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